

# Traditional veterinary medicine in the Alice district of the Eastern Cape Province, South Africa

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**R**ESOURCE-POOR FARMERS IN RURAL AND peri-urban areas have limited access to veterinary care in terms of support services (from state and private veterinarian and animal health technicians), information about the prevention and treatment of livestock diseases, and preventative and therapeutic veterinary medicines. This results in reduced productivity and in livestock disease and deaths, which is a great burden on these farmers, who can least afford the loss of their animals. There is a need to encourage disadvantaged farmers to use available resources and methods, at minimal cost, and to improve their productivity. One of these resources is ethnoveterinary medicine. A list of 53 plants used as veterinary medicines by stock farmers in the Alice district in the Eastern Cape is presented together with their preparation and methods of administration.

## Background

Africans in the Eastern Cape have a long tradition of using plants to treat animal ailments,<sup>1,2</sup> but the effectiveness of the various herbal remedies remains controversial. Traditional plant uses can be linked directly to the utilization and conservation of plants as well as the development of modern medicines.<sup>3</sup> There is a need to encourage resource-poor farmers to use available resources and methods of veterinary medicine to improve productivity, but these need to be assessed for effectiveness and safety. Younger farmers see traditional veterinary medicines as outdated and there is thus a danger that these practices will be lost with the older generation and needs to be documented and protected. It is hoped that this knowledge will be of some value to researchers testing the efficacy of promising remedies as sustainable and locally available alternatives to conventional medicines and to aid them in developing useful information for these farmers.

The study site is 15 km south of Alice and 25 km northwest of Peddie and is regarded as prime grazing veld for cattle,

forming part of the superior *smaldeel* swathe of sweetveld<sup>4</sup> (Fig. 1). It is the least densely populated region of the former Ciskei, with a consequent deficiency of basic services. The area comprises six formerly white-owned farms that were bought by the South African Development Trust for the consolidation of the Ciskei in the 1980s. For the past twenty years, the families constituting the Masakane group have managed to secure a tentative foothold on this land, due to the policy of the Ciskei government to retain the land for commercial purposes by leasing out units to non-resident black farmers. During this time some of the farm dwellers accumulated a number of stock of their own and livestock farming has become the main source of livelihood. The animals are in good condition and can readily be sold at the market.<sup>4</sup> Most of the cattle are Nkoni cross-bred with Bonsmara, Afrikander and Brahman (N. Fischer, pers. comm.).

The Masakane community comprises 90 households living on the six farms known as Ebenezer, Llangollen, Klipfontein, Fenryn, Thornfield and Victoria Post (Fig. 1). Most of the population (94%) are farm workers and their families who, over the last 20 years, have remained living on the farms where European stock farmers previously employed them. The total resident population of the Masakane group is 664 comprising 307 males and 337 females. Just over a third of the residents are between the ages 19 and 45. The population has been stable over the last three decades with very little movement on and off the farms. Most families (94%) occupying individual houses (which for the purposes of this study are termed households) have been living on the farms for over 20 years.<sup>5</sup>

Incomes, generally from sale or use of stock and from social welfare transfers (pensions and disability grants), are low. Estimates based on questionnaires revealed that a third (30%) of the households generate an income of between R400 and R800 per month. A smaller group (23%) receive less than R400, while only one sixth (15%) earn over R800 per month. Incomes differ widely from month

to month and season to season, since a large number of households generate income from the sale of stock and products such as meat, milk and skins. A few people have formal employment such as those working as game guards in the nearby Double Drift Game Reserve.<sup>5</sup>

Access to veterinary services for rural stockowners has altered significantly over the past three decades. Under the previous government, the Ciskei Department of Agriculture (DOA) freely dispensed services, including dipping solutions, medicines and information about illnesses. Between 1996 and 2000, the current Department of Agriculture and Land Affairs was severely constrained by lack of funds and staff but currently has five animal health technicians in the Alice district. Informants at the study site, however, reported that state services are poor or non-existent. Tick-borne diseases and physical damage from ticks are the primary cause of poor stock condition and stock loss in the study site. This has resulted in families having to purchase their own medicines and dipping solution in Alice. Livestock should be dipped every two weeks in the summer months and once a month in winter if possible (N. Fischer, pers. comm.). Dipping solution costs approximately R120 per litre. The cost of veterinary medicines is out of reach for most families living on the farms.<sup>5</sup>

## Methods

Members of 25 households (28% of the total number in Masakane) were interviewed in their homes on the farms Ebenezer, Penryn and Victoria Post between October and December 2000. The interviews comprised four parts: demographic information on the household, numbers and type of stock owned per household, information regarding stock illness and on treatment of illnesses. All families owned cattle (430) and poultry (345), 11 families owned goats (181) and three families owned sheep (46). However, of the total number of households in Masakane, only 25 owned cattle and therefore determined the sample size. A further 23 questionnaires were administered to households with both men and women present to confirm and add to data collected previously in interviews. Questionnaires provided a summary of the most common stock diseases per household and the medicinal plants used to treat these. No traditional healers were interviewed and all the information presented here is from the stockowners themselves. Further interviews were undertaken with the Masakane residents'

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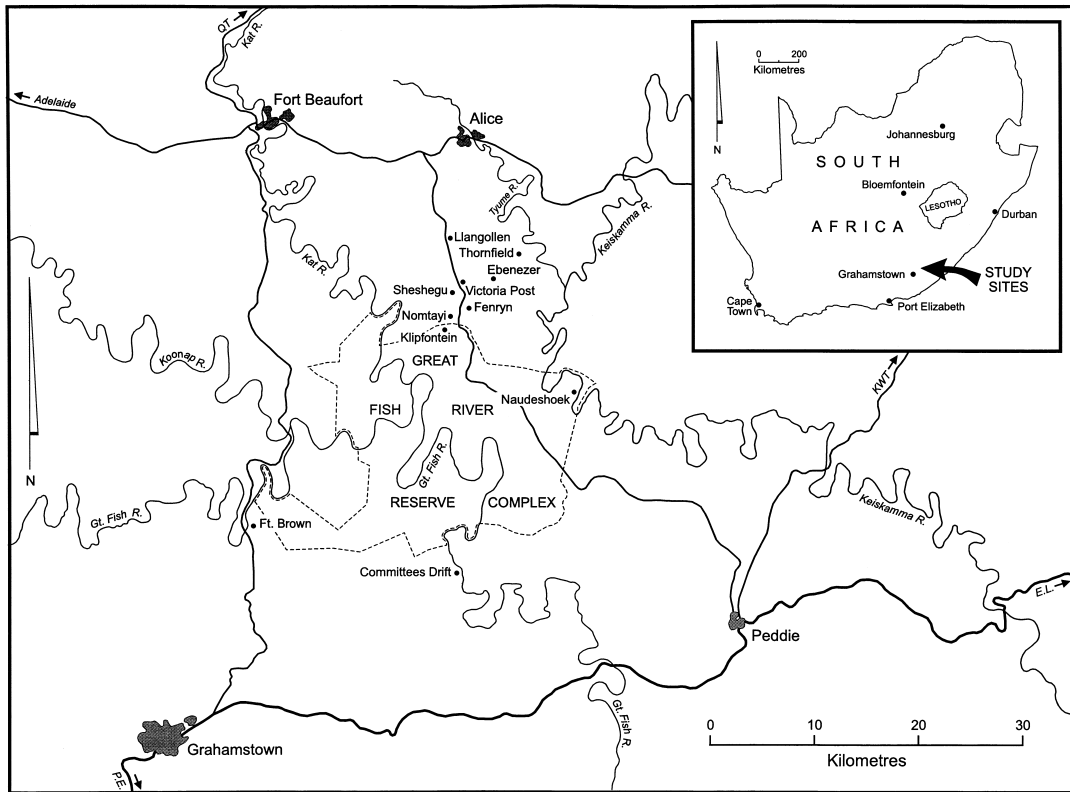


Fig. 1. Study sites: Alice district in the Eastern Cape.

association chairperson, the owner of the largest number of stock, and the owner of the second largest number of stock to document the perceived historical changes that have taken place regarding the services provided by the Department of Agriculture over the past 30 years.

All plant species recorded as veterinary medicines were collected in the field by means of the field interview,<sup>6</sup> also known as a bagging interview<sup>7</sup> or walk-in-the-woods interview.<sup>8</sup> One or more members of each household that was interviewed accompanied the authors and identified plants in the field. Specimens were collected and pressed as vouchers to be identified and deposited in the Selmar Schonland Herbarium in the Albany Museum, Grahamstown. All participants were informed that the data would be published and that they would be compensated for their contribution. Two interviews with professional veterinarians in Grahamstown and Bathurst (see acknowledgements) were conducted in early 2001 to confirm diseases referred to as symptoms by stockowners.

## Results

Of the total of 33 ailments recorded in the study site, 16 affected cattle: gallsickness (anaplasmosis), black quarter, brucellosis, conjunctivitis, diarrhoea, dry gallsickness, dystocia, endometritis, footrot, heartwater (cowdriasis), internal

parasites, mange, redwater (babesiosis), retained afterbirth, three-day stiff-sickness and vaginitis. Seven affected goats: bloat, conjunctivitis, diarrhoea, footrot, heartwater, intestinal parasites and mange. Five affected sheep: conjunctivitis, footrot, heartwater, intestinal parasites and sheep scab. Four were poultry ailments: fowl typhoid, lice, Newcastle disease and a respiratory disorder known as *piep*. One ailment affected dogs: distemper.

It is important to note that although the diagnosis of heartwater referred to in this study is translated from the Xhosa word *inyongo* (N. Fischer, pers. comm.), the symptoms should be interpreted in a broad sense. The term *inyongo* is used widely to refer to the inhibited emptying of the gall bladder as a result of decreased food intake. On post mortem, the gall bladder is swollen. This can be as a result of heartwater as well as several other conditions such as gallsickness, intestinal parasites, anaemia, and intestinal disturbance. Similarly, the Xhosa word *umkhondo* is translated as paratyphoid (N. Fischer, pers. comm.) but refers to diarrhoea that may be caused by several conditions, including salmonellosis.

Sixteen of these ailments are treated with traditional herbal medicines: gallsickness, bloat, conjunctivitis, diarrhoea, distemper, dystocia, endometritis, footrot, fowl typhoid, heartwater, internal

parasites, mange, sheep scab, redwater, retained afterbirth and vaginitis. Four herbal preparations for the metaphysical protection of stock were recorded, one for treating animals for shock, one to treat broken bones and one to increase lactation in cattle.

Medicines are most often prepared by means of a decoction or infusion in water and administered by means of a 'bottle' (750 ml) or a 'nip' (200 ml), although the quantity is determined by the size of the bottle available rather than a prescribed amount. Other means of administration include feeding the plant material to the animal, adding the plant material to drinking water troughs, by means of a wash, applying the plant sap directly to the skin.

Only 25 of the 53 plants listed in this study have previously recorded veterinary uses in the literature surveyed and it is clear that traditional veterinary medicines are poorly documented in South Africa.

The 53 medicinal plant species investigated are discussed in alphabetical order together with recorded uses. The botanical name is followed by family name, voucher specimen number, Xhosa name, recorded use (plant part, preparation, ailment treated), previously recorded usage, locality and reference. The spelling of Xhosa names is after Dold & Cocks.<sup>9</sup>

1. *Acacia karroo* Hayne, Fabaceae; Dold

- 3985, 4120; *uMnga*. Fresh bark is boiled in water and given to goats to treat diarrhoea. Bark is chopped into small pieces and boiled for ten minutes, cooled and the water given to goats and sheep (200 ml each morning) to treat intestinal parasites. Previously recorded uses include a leaf infusion added to drinking water to treat intestinal parasites in poultry and pigs in the Eastern Cape.<sup>3</sup> The roots are used to kill external poultry parasites in the North West Province<sup>10</sup> and Zimbabwe.<sup>11-13</sup> A bark decoction is used to treat tulp (*Moraea polystachya*) poisoning in cattle in South Africa.<sup>14</sup>
2. *Acokanthera oppositifolia* (Lam.) Codd, Apocynaceae; Dold 4125; *iNtlungunyembe*. Leaves are boiled for ten minutes, strained and left to stand overnight and given to goats and sheep (200 ml) to treat heartwater (*inyongo*). Previously recorded uses include a treatment for redwater in cattle (no details) in the Eastern Cape.<sup>15</sup> The powdered root is used to treat snakebite in humans and animals and a root decoction is used to treat anthrax and tapeworm and the powdered leaf is applied to swollen limbs of animals in South Africa.<sup>14</sup>
  3. *Agapanthus praecox* Willd., Alliaceae; Dold 4131; *uMkhondo*. The root is boiled for ten minutes, cooled, strained and given to sheep and goats (200 ml in the morning) to treat diarrhoea (*umkhondo*). No previously recorded uses were found in the literature surveyed.
  4. *Aloe ferox* Mill., Aloaceae; Dold 3979, 4074; *iKhala*. Fresh leaves are put into poultry drinking water to prevent them contracting poultry disease and to prevent tick and lice infestation. The leaves are boiled and mixed in the cattle drinking water to prevent redwater (*amanzabomvu*). Leaves are soaked in poultry drinking water to treat fowl typhoid (*umbathalala*). Previously recorded uses include the leaf sap used to treat redwater and intestinal parasites in the Eastern Cape.<sup>16</sup> The sap is mixed with meal as a purgative for cattle in South Africa,<sup>14</sup> and is applied as a remedy for scab in sheep here.<sup>2</sup> The leaves are used as a laxative for cattle in Lesotho.<sup>17</sup> The leaf sap is used to treat sheep scab in East Africa.<sup>18</sup>
  5. *Aloe tenuior* Haw., Aloaceae; Dold 4137; *uMjingqa*. The leaves are crushed and boiled in water for 20 minutes, cooled, strained and given to cows (750 ml in the morning) to treat retained afterbirth (*ukumelwa ngumcantsi*). Previously recorded uses include a root decoction used as a purgative to treat tapeworm<sup>14</sup> and a treatment for redwater and intestinal parasites by adding the leaf sap to drinking water,<sup>16</sup> both in the Eastern Cape.
  6. *Araujia sericifera* Brot., Asclepiadaceae; Dold 4095; *iMpinda*. The root is used to protect stock from witchcraft; a small piece is buried in the ground at the entrance to the kraal, so that animals will step over it every time they exit. No previously recorded uses were found in the literature surveyed.
  7. *Arctotis arctotoides* (L.f.) O.Hoffm., Asteraceae; Dold 1512; *uBushwa*. The whole plant is boiled in water and used to treat heartwater in goats (200 ml per day). No previously recorded uses were found in the literature surveyed.
  8. *Asparagus setaceus* (Kunth) Oberm., Asparagaceae; Dold 4068; *iMvane*. Roots are mixed with *Rhus incisa* roots, soaked in cold water and used to treat livestock for shock after an accident. No previously recorded uses were found in the literature surveyed.
  9. *Asparagus suaveolens* (Burch.) Oberm., Asparagaceae; Dold 3983; *iMvane*. Roots are boiled and given to cows (750 ml in the morning) to treat retained afterbirth. No previously recorded uses were found in the literature surveyed.
  10. *Azima tetracantha* Lam., Salvadoraceae; Cocks 6; *iGceleya*. The dried root is ground and bottled in cold water and given to cows to treat dystocia (*ukumelwa lithole*). No previously recorded uses were found in the literature surveyed.
  11. *Boophane disticha* (L.f.) Herb., Amaryllidaceae; Dold 3988, 4048; *iShwadi*. A decoction of the bulb is used to treat redwater in cattle. Previously recorded uses include a remedy for redwater disease in cattle using the bulb<sup>2,14</sup> in South Africa. The root is used to treat constipation in cattle<sup>11</sup> and a bulb infusion is applied as a drench to treat constipation in ruminants in Zimbabwe.<sup>12</sup> The roots are crushed and rubbed into incisions along broken limbs to facilitate healing in Lesotho.<sup>19</sup> Unspecified parts are used to treat constipation in cows in Africa.<sup>18</sup>
  12. *Brachylaena ilicifolia* (Lam.) Phill. & Schweick., Asteraceae; Dold 4123; *uMgqheba*. Leaves are mixed with the leaves of *Leucas capensis* and sap of *Aloe ferox*, boiled, strained and given (200 ml every morning) to lambs with diarrhoea. No previously recorded uses were found in the literature surveyed.
  13. *Bulbine alooides* (L.) Willd., Asphodelaceae; Dold 3974; *iRooiwater*. A decoction of the root is used to treat redwater (*amanzabomvu*) in cattle. No previously recorded uses were found in the literature surveyed.
  14. *Capparis sepiaria* L. var. *citrifolia* (Lam.) Tölken, Capparaceae; Dold 4141; *iQhagule*. A single branch is attached to the entrance of the kraal to protect stock from lightning. Previously recorded uses include a root decoction used to treat gallsickness in stock and the root is used as a protective charm in the Eastern Cape.<sup>14</sup>
  15. *Curtisia dentata* (Burm. f.) C.A.Sm., Cornaceae; Dold 4091; *uMlahleni*. Bark, together with the bark of *Rapanea melanophloeos*, is boiled for half an hour, cooled and given to cows (200 ml) followed by one litre of Coca-Cola™ soft drink to treat heartwater. No previously recorded uses were found in the literature surveyed.
  16. *Cussonia spicata* Thunb., Araliaceae; Dold 3976, 3981; *uMsenge*. The bark is used to treat retained afterbirth. Leaves are used in a remedy together with leaves of *Olea europaea* subsp. *africana* to treat cows with bloody urine after calving (endometritis and/or vaginitis). A decoction of the bark used to treat gallsickness in cattle has been recorded in the Eastern Cape.<sup>3,16</sup>
  17. *Cyphostemma cirrhosum* (Thunb.) Descoings ex Wild & Drum., Vitaceae; Dold 4132; *iMpinda*. A piece of the stem is cut and buried underground at the entrance to the cattle kraal, so that all animals walk over it when leaving the kraal, thereby ensuring their safety and good health. This procedure is administered by traditional healers only. No previously recorded uses were found in the literature surveyed.
  18. *Elephantorrhiza elephantina* (Burch.) Skeels, Fabaceae; Dold 4089; *iNtololwana*. The root is boiled in water, strained and the liquid given to cows to treat mange. Previously recorded uses include a root decoction used to treat diarrhoea in cattle and horses in the Eastern Cape and KwaZulu-Natal<sup>14</sup> and for metaphysical protection for cattle in the Eastern Cape.<sup>15</sup>
  19. *Exomis microphylla* (Thunb.) Aellen var. *axyrioides* (Fenzl) Aellen, Amaranthaceae; Dold 3982; *uMvenyathi*. A leaf decoction is used in a remedy for endometritis and vaginitis. No previously recorded uses were found in the literature surveyed.
  20. *Gnidia capitata* L.f., Thymelaeaceae; Dold 3972; *iSidikili*. A root decoction is

- used to treat heartwater in cows. A root decoction used to treat anthrax has been recorded in South Africa.<sup>14</sup>
21. *Grewia occidentalis* L.f., Tiliaceae; Dold 4071; *uMnqabaza*. Leaves, mixed with the leaves of *Olea europaea* subsp. *africana* and *Zanthoxylon capense* and the sap of *Aloe ferox*, are soaked in cold water and used to treat stock with gallsickness. No previously recorded uses were found in the literature surveyed.
  22. *Haemanthus albiflos* Jacq., Amaryllidaceae; Dold 3973; *uMathunga*. The bulb is pulped and bandaged directly onto a broken limb to facilitate healing. No previously recorded uses were found in the literature surveyed.
  23. *Hippobromus pauciflorus* (L.f.) Radlk., Sapindaceae; Dold 4126; *iLathile*. The bark is mixed with bark of *Protorhus longifolia*, grated and boiled for ten minutes, cooled, strained and given to cows (200 ml) to treat heartwater and diarrhoea. Previously recorded uses include a leaf decoction used to treat coughing and to expel mucus in sheep and goats<sup>14</sup> and to treat footrot<sup>16</sup> in the Eastern Cape. The leaf sap is used to treat inflamed eyes of animals in South Africa.<sup>14</sup>
  24. *Indigofera sessilifolia* DC., Fabaceae; Dold 3987; *iKhubalo*. Roots are used in a treatment for calves with diarrhoea. No previously recorded uses were found in the literature surveyed.
  25. *Ledebouria revoluta* (L.f.) Jessop, Hyacinthaceae; Dold 3984; *iKreketsana*. An infusion of the bulb is used to treat diarrhoea in goats. A leaf decoction used to treat gallsickness has been recorded in South Africa.<sup>2</sup>
  26. *Leucas capensis* (Benth.) Engl., Lamiaceae; Dold 4122; *uPhiphiyo*. Leaves are mixed with *Brachylaena ilicifolia* leaves and *Aloe ferox* sap, boiled, strained and given (200 ml) to stock to treat gallsickness. No previously recorded uses were found in the literature surveyed.
  27. *Marrubium vulgare* L., Lamiaceae; Dold 4133; *uMhlonyane*. Leaves are boiled for 20 minutes, cooled, strained and given to stock to treat gallsickness (200 ml in the morning). No previously recorded uses were found in the literature surveyed.
  28. *Mystroxydon aethiopicum* (Thunb.) Loes., Celastraceae; Dold 4138; *uMbombvane*. The bark is grated and boiled for 20 minutes and given to cattle to treat heartwater. Previously recorded uses include an infusion of the bark administered as a drench to treat worm-infested calves in KwaZulu-Natal<sup>14</sup> and the bark is used in Africa to treat intestinal parasites.<sup>18</sup>
  29. *Olea europaea* L. subsp. *africana* (Mill.) P.S. Green, Oleaceae; Dold 3977, 3980, 4072; *uMnquma*. Leaves, together with *Cussonia spicata* root, are used in a treatment for cows with bloody urine after calving (endometritis and vaginitis). A bark infusion is used to treat diarrhoea in goats. Leaves are mixed with *Zanthoxylon capense* leaves, *Grewia occidentalis* leaves and *Aloe ferox* sap as a treatment for gallsickness in cattle. All ingredients are soaked overnight in cold water. An eye lotion for humans and animals using the leaf has been recorded in Africa.<sup>13,18</sup> A leaf decoction is used to treat redwater in Tanzania.<sup>18</sup> A fruit decoction is used to treat jaundice in cows in Kenya.<sup>18</sup>
  30. *Pelargonium reniforme* Curtis, Geraniaceae; Dold 3986, 4086, 4136; *iNtolo-lwana*, *uVendle*. A root decoction is used to treat diarrhoea in goats. The root is mixed with root of *Plumbago auriculata*, crushed and soaked in cold water for one hour then strained and the water is given to cows (750 ml) to treat diarrhoea. Roots are crushed and soaked in cold water overnight and given to cattle (750 ml in the morning) to treat heartwater. A decoction used to treat liver disorder in cattle and sheep has been recorded in the Eastern Cape.<sup>14</sup>
  31. *Phoenix reclinata* Jacq., Arecaceae; Dold 4121; *iSundu*. Roots are mixed with *Arctotis arctotoides* leaves and boiled for 20 minutes after which the warm liquid is used as a wash to treat footrot (*uchwane*) in sheep and goats. No previously recorded uses were found in the literature surveyed.
  32. *Plumbago auriculata* Lam., Plumbaginaceae; Dold 4087; *uTshintshini*. The root is mixed with *Pelargonium reniforme* root and soaked for one hour in water, strained and given to cows (750 ml) to treat diarrhoea. No previously recorded uses were found in the literature surveyed.
  33. *Podocarpus falcatus* (Thunb.) R.Br. ex Mirb., Podocarpaceae; Dold 1750; *uMkhoba*. A leaf decoction is used to treat distemper in dogs (*umzananda*). The plant, used as a charm in cattle kraals to prevent cattle from straying, has been recorded in KwaZulu-Natal.<sup>13</sup>
  34. *Podocarpus latifolius* (Thunb.) R. Br. ex Mirb., Podocarpaceae; Dold 1818; *uMkhoba*. A leaf decoction is used to treat distemper in dogs. A bark decoction used to treat gallsickness in cattle has been recorded in the Eastern Cape.<sup>3</sup>
  35. *Polystachya ottoniana* Reichb. f., Orchidaceae; Dold 4134; *iPhamba*. The whole plant is crushed and mixed in a bucket of cold water, which is splashed against the walls of the kraal. This protects the animals from evil and ensures good health. The procedure is only administered by traditional healers. No previously recorded uses were found in the literature surveyed.
  36. *Protorhus longifolia* (Bernh.) Engl., Anacardiaceae; Dold 4128; *uZintlwa*. The bark is mixed with bark of *Hippobromus pauciflorus* and boiled for 20 minutes, strained and given to cows (200 ml) to treat heartwater and diarrhoea. No previously recorded uses were found in the literature surveyed.
  37. *Prunus persica* (L.) Batsch., Rosaceae; Dold 4124; *iPesika*. A leaf decoction is given to lambs and kid goats to treat diarrhoea. The root, crushed and rubbed into incisions to facilitate the healing of broken bones, has been recorded in Lesotho.<sup>19</sup>
  38. *Rapanea melanophloeos* (L.) Mez, Myrsinaceae; Dold 4090; *uMaphipha*. The bark, together with bark of *Curtisia dentata*, is boiled for half an hour, cooled and given to cows (200 ml) followed by one litre of Coca-Cola™ to treat heartwater. No previously recorded uses were found in the literature surveyed.
  39. *Rhoicissus tridentata* (L. f.) Wild & Drum., Vitaceae; Dold 4130; *iChitibunga*. The tuber is boiled in water for 15 minutes and given to goats and sheep (200 ml in the morning) to treat diarrhoea. Previously recorded uses include the tuber used to treat (unspecified) cattle diseases in South Africa<sup>20</sup> and as a general medicine (unspecified) for cattle in East Africa.<sup>21</sup>
  40. *Rhus incisa* L.f., Anacardiaceae; Dold 4069, 4088; *uNongquthu*. Roots, mixed with *Asparagus setaceus* roots, are soaked in cold water that is given to livestock as a treatment for shock after an accident. Bark is crushed and soaked in cold water for ten minutes and then given to cows (750 ml) to treat diarrhoea. An unspecified part used to treat diarrhoea in cows has been recorded in Africa.<sup>18</sup>
  41. *Sansevieria hyacinthoides* (L.) Druce, Dracaenaceae; Dold 4140; *iSkolokotho*. Fresh leaf sap is applied directly into the eyes of sheep or goats with conjunctivitis (*isifo samehlo*). The tuber used in a wash to treat swollen limbs has been recorded in Tanzania.<sup>18</sup>
  42. *Sarcostemma viminalis* (L.) R.Br., Asclepiadaceae; Dold 1666; *uMbelebele*. The stems are dried, powdered, mixed

- in cold water and given to cattle to encourage lactation (*isaqakha*). Use as a galactagogue in cows in the Eastern Cape,<sup>14</sup> South Africa,<sup>2</sup> Zimbabwe,<sup>12</sup> and in Africa<sup>18</sup> has been previously recorded. The latex is used to treat intestinal parasites in dogs in Zimbabwe.<sup>11,12</sup>
43. *Schotia latifolia* Jacq., Fabaceae; Dold 3975; *uMgxam*. A bark decoction is used in a treatment for redwater in cattle. No previously recorded uses were found in the literature surveyed.
44. *Secamone filiformis* (L.f.) J.H. Ross, Asclepiadaceae; Cocks 2; *iMbijela*. The stem is ground and mixed with cold water and given to cattle to treat diarrhoea. No previously recorded uses were found in the literature surveyed.
45. *Sideroxylon inerme* L., Sapotaceae; Dold 4139; *uMqwashu*. The bark is crushed and boiled for 20 minutes and the decoction given to cattle (200 ml in the morning) to treat redwater. A bark decoction used to treat gallsickness in stock has been recorded in the Eastern Cape.<sup>14</sup>
46. *Solanum mauritianum* Scop., Solanaceae; Dold 3953; *uMbangabanga*. Two spoons-full of grated root are boiled for ten minutes and given to cows (750 ml every second day) to treat dystocia. No previously recorded uses were found in the literature surveyed.
47. *Stangeria eriopus* (Kunze) Baill., Zamiaceae; Dold 4026; *uMfingwani*. The rootstock is dried, grated and fed to livestock to treat internal parasites. No previously recorded uses were found in the literature surveyed.
48. *Strychnos decussata* (Pappe) Gilg; Loganiaceae; Dold 4085; *uMnonono*. The bark is crushed and soaked in water for 20 minutes, after which the infusion is strained and given to cows (750 ml) to treat roundworm. No previously recorded uses were found in the literature surveyed.
49. *Strychnos henningsii* Gilg, Loganiaceae; Dold 4127; *uMnonono*. The bark is boiled for 20 minutes, strained and given to cattle (200 ml) for heartwater and diarrhoea. No previously recorded uses were found in the literature surveyed.
50. *Teucrium africanum* Thunb., Lamiaceae; Dold 3978, 4135, Cocks 10; *uBuhlungu bebhokhwe*. Leaves are used in a remedy for gallsickness in cattle. Leaves are boiled for 20 minutes and given (200 ml in the morning) to goats and sheep to treat heartwater. A leaf decoction is given (750 ml twice a day) to goats with bloat (*uqunjelo*). A leaf decoction used to treat anthrax and

gallsickness in cattle and goats has been recorded in the Eastern Cape.<sup>14</sup>

51. *Urginea altissima* (L.f.) Baker, Hyacinthaceae; Dold 1698, 4049; *uZabokwe, iMfilisi*. A bulb decoction is given to cattle to rid them of intestinal parasites. A bulb decoction is used to treat retained afterbirth. No previously recorded uses were found in the literature surveyed.
52. *Vernonia mespilifolia* Less., Asteraceae; Dold 4129; *uHlunguhlungu*. Stems are cut up and boiled for 20 minutes, cooled, strained and given (200 ml) to goats with heartwater. No previously recorded uses were found in the literature surveyed.
53. *Zanthoxylum capense* (Thunb.) Harv., Rutaceae; Dold 4070; *uMlungumabele*. Leaves are mixed with *Grewia occidentalis*, *Olea europaea* subsp. *africana* leaves and *Aloe ferox* sap, soaked in cold water and given to stock with gallsickness. A root decoction used to treat gallsickness has been previously recorded in the Eastern Cape.<sup>14</sup>

### Conclusions

Concurrent with the findings of Masika *et al.*,<sup>3</sup> most of the informants reportedly learnt the uses of traditional medicines from their parents and grandparents and still administered them when necessary. Unlike in other parts of the world where traditional knowledge is documented,<sup>22</sup> the Masakane community have no written record of medicinal plants and rely on oral transfer from one generation to the next. In the study site traditional medicines are commonly used and are regarded as effective, readily available and, most important, free. Two thirds of the informants reported that traditional medicines are more effective than western medicines for certain diseases, notably redwater and heartwater. Biomedical products were reportedly inaccessible and too expensive for common use. One in five of the informants made use of both traditional and western medicines because they were considered to be effective in treating different diseases. However, certain culturally related ailments are treated only by means of traditional medicines as prescribed by traditional custom. One third of the informants reportedly used traditional medicines to protect their animals from culturally related illness. It was found that the remedies prepared were in all cases prepared by the stockowners themselves rather than by consulting a traditional healer. This confirms a widespread and high level of knowledge of the use of medicinal plants amongst the stockowners.

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